

Abstract

- Narrowband interference can seriously degrade the overall performance of a communications network without significantly damaging a large percentage of the communications network's transmissions. In a single tone communications network, narrowband interference can reduce the overall signal-to-noise ratio to a level such that a receiver can no longer accurately decode the received transmission. However, the receiver's filters and equalizers often can filter out the effects of the narrowband interference and the receiver can accurately decode the received transmission if the receiver can restart the decoding at the point when the narrowband interference began interfering with the transmission. A technique using sequential decoding with backtracking and adaptive equalization permits the receiver to adapt to the presence of the narrowband interference and backtrack the decoding to a point prior to the interference.